FIG.1

System Configuration for Embodying the Present Invention

FIG.2
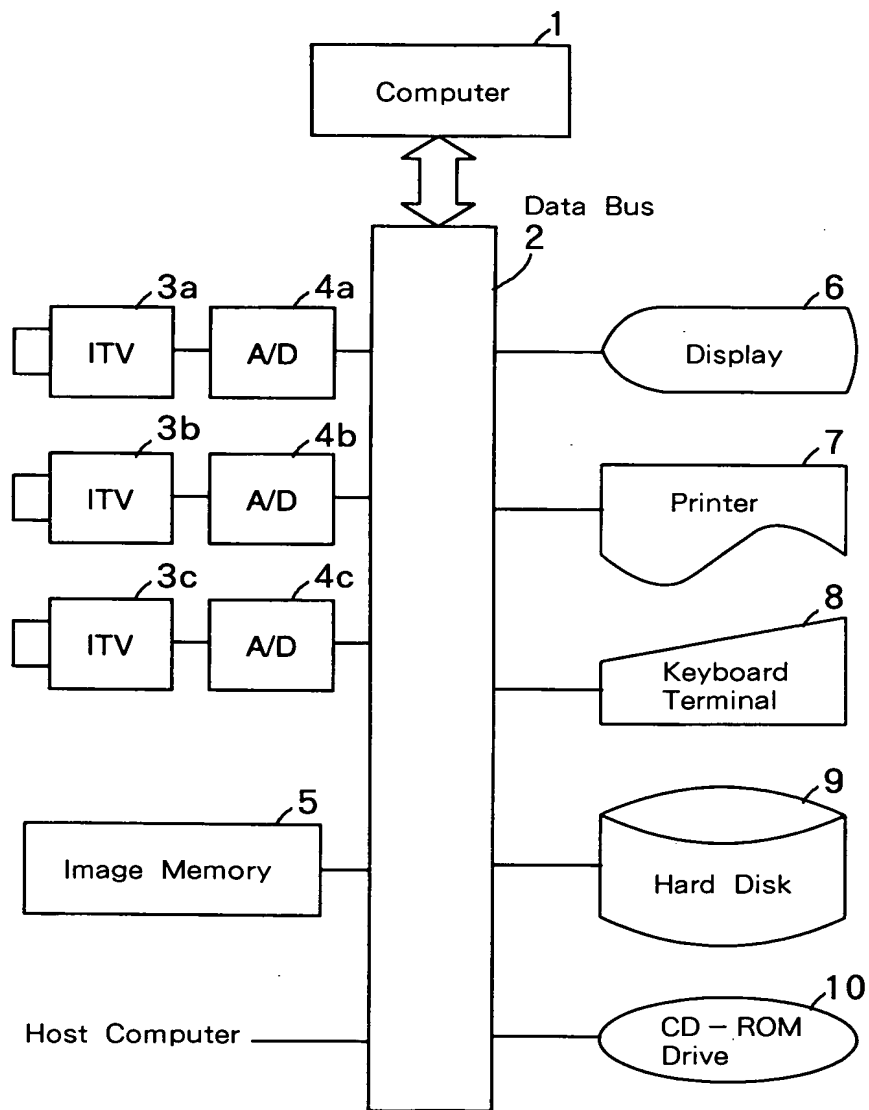
Flow of Basic Processing of This Invention

```
                    ┌─────────────┐
                    │    Start    │
                    └──────┬──────┘
                           │
   S1   ┌───────────────────────────────────────┐
        │    Input of stereographic image frame  │
        └───────────────────┬───────────────────┘
                            │
   S2   ┌───────────────────────────────────────┐
        │       Selection of tracing point       │
        └───────────────────┬───────────────────┘
                            │
                        S3  │
        ┌───────────────────────────────────────┐
        │       Search for corresponding point   │
        └───────────────────┬───────────────────┘
                            │
                        S4  │
        ┌───────────────────────────────────────┐
        │  Restroration of three-dimensional coordinate │
        └───────────────────┬───────────────────┘
                            │
                        S5  │
        ┌───────────────────────────────────────┐
        │ Detecting of object position/posture and error │
        └───────────────────┬───────────────────┘
                            │
   S6                       │                 NO
        ◇─────────────────────────────────────◇
        │       Small-enough error ?           │
        ◇─────────────────────────────────────◇
                            │
                          YES
                    ┌─────────────┐
                    │     End     │
                    └─────────────┘
```
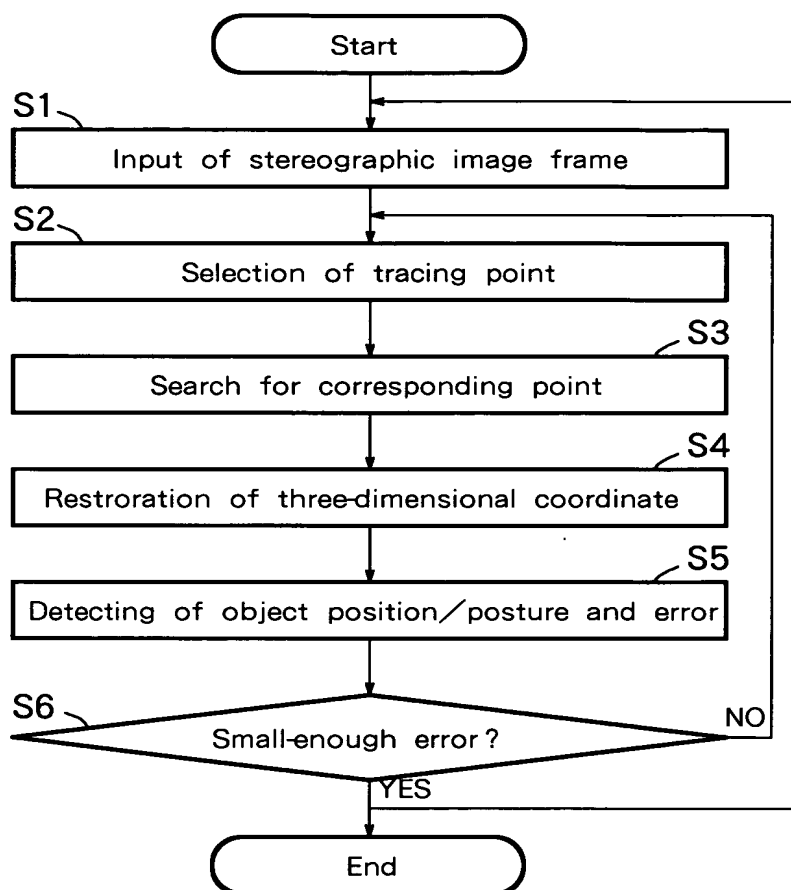
FIG.3

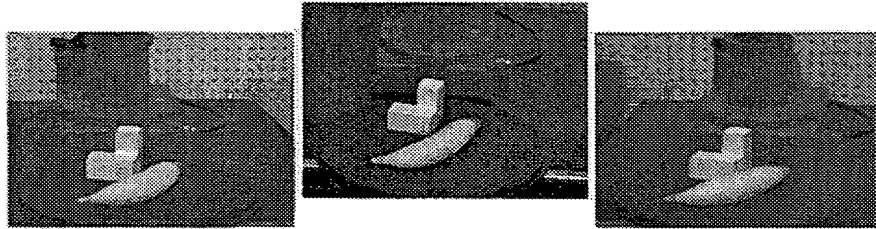An Example of Time-Series Stereo Image

FIG.4

An Example of Estimated Initial Position of a Curve-Faced Object

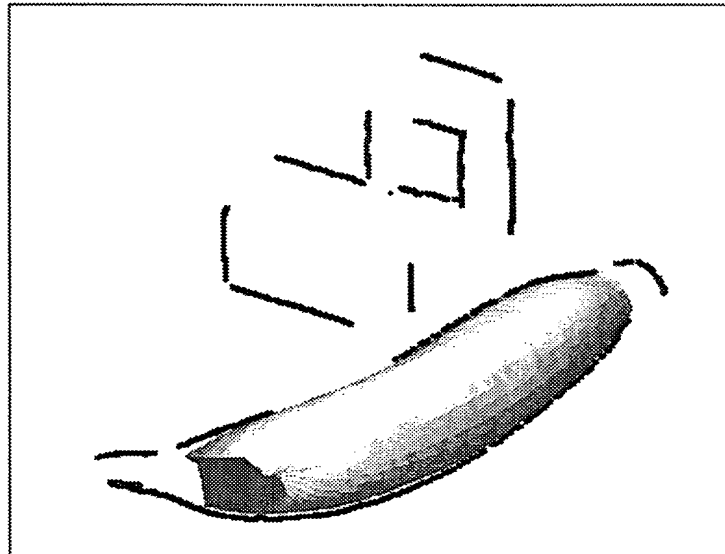## FIG.5

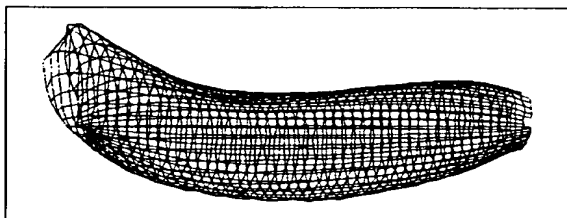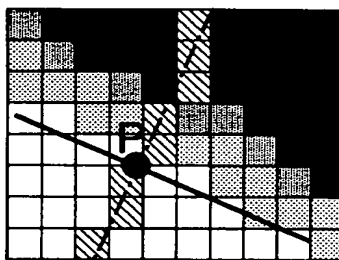An Example of Net Configuration of a Curve-Faced Object Model

FIG.6

Method of Searching for a Corresponding Edge Point

FIG.7

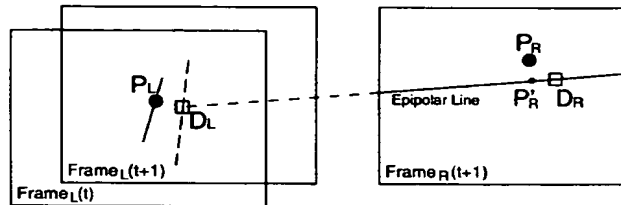Method of Searching for a Stereo Corresponding Point

FIG.8

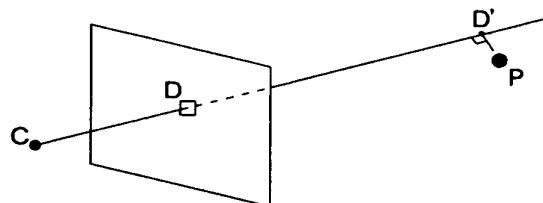Method of Three-Dimensional Estimation of a Corresponding Point by Monocular Vision

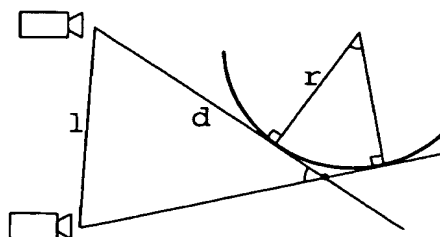## FIG.9

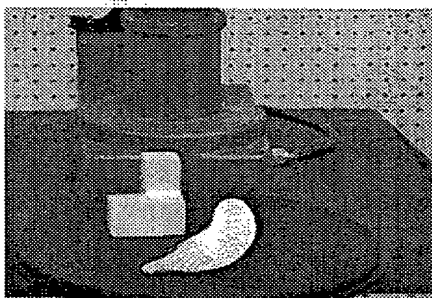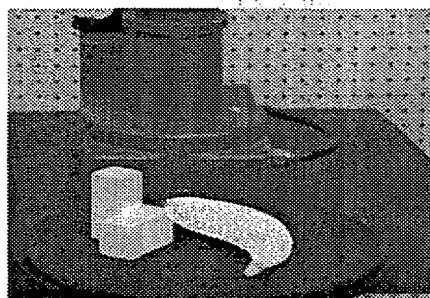Measurement Error of a Curve-Faced Object in Stereo Vision

FIG.10
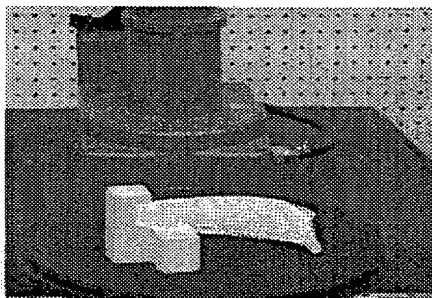
An Example of a Tracing Result of an Arbitrarily-Curved Object

Frame 20
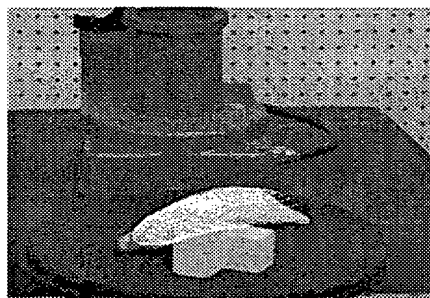

Frame 70

Frame 120

Frame 170